

Appn. No.: 10/002,763

Grp./A.U.: 3671

### **Remarks/Arguments**

#### **Detailed Office Action sent Jan. 14, 2004:**

1., 2., and 5.) Claims 62 to 79, 81 and 87 are rejected based on USC 102(e). The RCE arguments presented by the applicant were considered but found moot because of the new reason for rejection.

#### **Response:**

Overcoming a rejection based on USC 102(e) was definitely the driving force behind the arguments presented by the applicant in the filing of the RCE, therefore is not "new" even though this type of rejection was not noted in any previous OA. The applicant was aware that the prior art (Mitchell) had to be overcome. That is why the Remarks/Arguments section of the RCE (starting from p.3) is almost solely devoted to convince the Examiner that the claims as presented therewith are narrow enough to overcome a USC 102(e) rejection based on Mitchell. Therefore, the arguments presented could not be moot in view of the "new" grounds of rejection.

After careful consideration of the marked up drawings and counter arguments presented in the OA sent 1/14/04, the applicant finds it necessary to present more arguments. This is to address those elements that might not have been sufficiently covered in the RCE but which are considered relevant and important by the Examiner. Some of the elements brought up in the marked-up drawings were already addressed in the RCE, but

the arguments were probably not clear and persuasive enough. The elements that were not given adequate coverage are those that the applicant might have considered minor or irrelevant then. It is hoped that the Examiner seriously take into consideration these new arguments because they address really compelling reasons why the present invention cannot have been anticipated by Mitchell.

Although it could be considered redundant, some of the arguments used here are the same arguments submitted with the RCE. The applicant may have to refer the Examiner back to the RCE's relevant sections. Illustrations are provided where needed to better support the arguments previously presented. In addition, the claims are narrowed by the addition of more elements.

This entire response is rather very long. However, the applicant deemed it necessary to argue in as much detail as possible in order to finally convince the Examiner regarding the patentability of other versions of the picking rake. It is preferable to provide the Examiner with a comprehensive response rather than a concise one that leaves a lot to the imagination and a lot of room for confusion and misinterpretation. Hopefully, in the end, the examination of the claims will require less time if a comprehensive argumentation is given.

Firstly, it is important to introduce again the words "being anticipated". This brings us to the **definition of "anticipation"** in patent law terms. **MPEP 706.02** entitled Rejection on Prior Art under the subheading Distinction Between 35 USC 102 and 103 provides clarification. It states:

**"...for anticipation under 35 USC 102, the reference must teach every aspect of the claimed invention either explicitly or**

**impliedly. Any feature not directly taught must be inherently present..."**

In other words, to anticipate another invention, the device or published description should show all the features of the invention and operating in the same way for the same purpose. The key words are "must teach every aspect" or "show all the features". Therefore, if there is but a single element in the present invention that is neither explicitly nor implicitly described in the reference, it is novel, thus, cannot be anticipated. Furthermore, if this single element provides a significant deviation and is unobvious, then the invention is patentable.

It is possible that even though not all of the elements of the invention are found in the reference, all the elements of the reference might be found in the invention. Then, the product could be infringing a claim of an in-force patent.

Considering that it is very unlikely for another to come up with the exact same invention literally, there is the **doctrine of equivalents** to guide everyone. Under this doctrine, even if each element of the patent's claim is not literally met by an element of the device, so long as the element of the device is the "equivalent" of the claimed element, the device can still infringe that element. **A device element is equivalent if it performs the same function in the same way to achieve the same result as the claim element, or the role of the device element is substantially the same as that of the claim element.**

The above is presented not to recite again what the Examiner already knows by heart but rather to help organize and direct the way for the applicant to argue more effectively and for the Examiner to follow the concepts behind the applicant's arguments.

**Rejection of Claims 62 to 76:**

The applicant has canceled claims 62 - 76 and replaced them with claims 88 - 98 incorporating all the elements supported by arguments in support of patentability discussed in the RCE and hereafter. To avoid confusion, each questionable element (based on the marked-up figure of the OA) in the canceled claims that is included in the new claims is discussed and argued to be non-equivalent one at a time in claim # order. Its inclusion in the new set of claims should support the patentability of the new claims.

**Claim 62:**

According to the marked up figures on pp. 3 and 4 of the Detailed Action sent 1/14/04, claims were rejected because they include one or more elements that are already found in the Mitchell patent either explicitly or implicitly. Since Claim 62 is the independent claim, the applicant will argue firstly towards the elements cited by the Examiner.

**Claim 62 is rejected because the following two elements are already present in Mitchell:**

- a) The first and second hand grips each comprise a branch substantially transverse, and**
- b) The lower ends of the first and second elongated members are coupled to the upper ends of the rake heads...**

**a) Transverse hand grips**

The applicant is assuming from the marked up figure that what the Examiner meant by the substantially transverse hand grips in (a) above is the Mitchell handhold (part# 107). This handhold is found only on the short-handled rake part and not on the long-handled part. This handhold is on the rake head itself, not on the elongated portion of the rake handle. This assumption

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is made because that is the only portion of the rake that can be held at a relatively transverse angle relative to the elongated handle and the arrows seem to point in their direction.

The applicant has gone to great lengths in the RCE submission to argue that the present invention's handle (hand grips and elongated member) and Mitchell's handle (elongated semi-cylindrical member) are not equivalent (see pp. 7-10 of the Remarks/Arguments section). Note that out of five (I-V) different ways in which they are considered non-equivalent, functions I, II, and III take into consideration the advantageous effects of the transversity of the hand grip because it is being compared to a non-transverse semi-cylindrical handle. This is achieved during the detaching, connecting, raking and picking operations using the picking rake. Although the arguments presented were targeted toward the non-equivalence of the present invention's handle to Mitchell's semi-cylindrical member, they can also be made to apply to Mitchell's handhold even if the handhold is also somewhat transversely disposed.

**The transverse positioning alone of the present invention's hand grip already differentiates the hand grip from the transverse handhold of Mitchell even if they are both transverse because they both perform different functions.** In addition to providing a comfortable grip angle for the user during the picking and raking operations, the transversity of the hand grip also serves to facilitate the attachment and detachment operations by minimizing the effort exerted by the user in performing these operations. The handles are separated sideways and therefore a transversely sideways hand grip would require very close to the minimum force to do the job depending on how near it can be positioned to the resilient connecting means. Figs. A and A' (on a separate page) shows the positions of the

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hand grip relative to the resilient member where only close to the minimum forces,  $F$  and  $F'$ , would be required to detach and attach the rake units.

On the other hand, the transversity of the handhold serves only to provide a comfortable grip angle for a stooped user possibly during the picking operations or when the small rake part is used alone. Its use as a means to effect a minimum force required for detachment and attachment is neither explicitly nor impliedly taught in the patent disclosure. Forward and backward rotating forces acting on a sideways transverse handhold that is substantially skewed to the right or left of the rib cannot be the minimum force needed to detach or attach Mitchell's two rake parts. This is not even advisable, as the applicant will explain shortly. Fig. B shows the location of rotational forces,  $F$  and  $F'$ , acting on the Mitchell rake during the attaching and detaching operations when using the handhold.

**The hand grip's strategic location and its structural integrity to house or be disposed very close to a connecting means separates further the hand grip from the handhold.** These clearly define its differentiating functions. That is why canceled claim 62 recites the specific location of the hand grip (lines 24 - 27). Because of its location, the function of the hand grip has been enhanced. The handle of the present invention can now allow a user to stay upright while raking, detaching, picking and connecting. A user can do the entire job from start to finish without ever stooping because of this hand grip.

The dual hand grips are also used to align the two rake units together before being connected for raking. Aligning the two hand grips side by side automatically aligns the left rake head with the right rake head and where a recess is present, also automatically aligns the recess with the gripper. Because Mitchell's handhold is only on one rake head, it cannot be

aligned with another handhold. And even if another handhold were disposed on the other rake head, the two handholds still could not be used to align the two rake parts in the same way the dual hand grips do because they are detached/attached in a rotational direction.

Mitchell's handhold is useful only for picking while in a stooped position (even more stooped than with the use of the semi-cylindrical member) or when the short-handled rake part is used independently. Referring in part to Mitchell's references and in part to the current state of the art, this handhold is no different in function, result and even structure from prior art in the field of debris pickers. A transverse grasping element is attached to the back of a rake head-like thing for use when picking. Nowadays, this grasping element is molded onto the rake head itself. The pre-molding idea **alone** is not novel and cannot be unobvious in the face of current technology. Therefore, Mitchell cannot claim exclusive use for a handhold on a rake head whose only function is for being grasped while picking debris. This means that an invention that happens to have also a handhold on its rake head but has other elements that render it novel and unobvious could be patentable. And if there is an invention whose claims do not include a handhold on a rake head but has other novel and unobvious elements, then it is even more deserving of a patent. The present invention is such. It is novel and unobvious over Mitchell with or without a separately attached or pre-molded grasping element on its rake head because it has other unique and unobvious elements that significantly differentiate it from prior art.

The Mitchell patent does not teach explicitly nor implicitly any other use for the handhold. The other rake head is not meant to and does not have a handhold as can be inferred from the design and operation of the rake. There is no point in

having a handhold on a rake head having a long non-retractable handle already attached to it. For how can one use the handhold with the long handle being in the way?

In the picking mode, **the unsymmetrical handle arrangement between the two rake parts can have a negative impact on the user's coordination and endurance.** One hand is holding a rake head transversely while another is holding the long handle longitudinally. And all these being done while in a stooped position. The extra concentration required to juggle these two very dissimilar rake parts will cause one to tire sooner while using Mitchell's rake than while using the present invention's detachable picking rake.

**It can be argued that Mitchell's handhold may also be used for aiding in the detaching and connecting operations as well.** But that would be awkward, difficult, and not recommended considering not only its distance from the reach of the user and the distance from the resilient semi-circular rib (part# 81) but also its structure. It could be a member made thicker than the rest of the rake head for a more comfortable grip. However, it is connected to a thinner semi-cylindrical member. Please refer to Mitchell's Fig.6. The distance between the rib and the handhold results in a clockwise torque (from the viewpoint of the user, assuming the rake head of the second rake part is on the left side as shown in Mitchell's figs. 6 and 11.) that has to be overcome. That is in addition to providing enough frontward force to detach the rib from the first rake part. It could cause the rake head to warp and eventually break. And further considering how tightly the two rake parts are abutted together, a minor warp can cause the connecting means such as the rib and the hook and opening to misalign and lose its purpose. It can be argued that the rib can be disposed further down the end of the second handle to the portion covering the

tubular member, thus, making it closer to the handhold. However, that will not completely eliminate the possibility of warpage because the handhold is still not in line with the axis of the rib and the connecting parts remain thin. Also, a rib located inside the semi-cylindrical section covering the tubular member will have less resiliency because there is abutment on the inner side wall of the tubular member (referred to as a recess later on). And what if there is more than one rib? More frontward force would be needed and more likelihood of warpage. That is why the function of the handhold in helping in the detaching and attaching operations is not taught in Mitchell explicitly nor impliedly. It cannot anticipate the hand grip of the present invention.

In addition, the general direction of the detaching motion for any connecting means in Mitchell using either the transverse handhold or the upturned end 105 of the semi-cylindrical second handle is forward and clockwise (when viewed by the user from the right). It is abutted from separating sideways. The transverse hand grip of the present invention disconnects with a sideways direction and in some versions, simply forward (Figs.10-A to 13-C). The sideways direction is the very direction abutted in Mitchell, therefore cannot be anticipated. In the discussion of the abutment and resilient member positioning/orientation, this difference is shown to produce significantly different results.

**Therefore, the advantages attributed to the transversity, location, and structural integrity of the hand grip of the present invention are not found in the Mitchell handhold, making the hand grip unique and far better than the handhold.**

Canceled claim 62 provides various elements that differentiate the hand grip from the handhold namely:

- a) lines 17-19 : There are two hand grips versus Mitchell's one handhold. This extra hand grip helps to support the contention that the present invention is not "anticipated" by Mitchell because not all the elements of the present invention are found in Mitchell.
- b) lines 24-27 : The hand grips lie along the elongated members of the handles and not on the rake heads. The difference in location provides significantly different results. Being on the handles brings the hand grips closer to the reach of an upright user. Using the hand grip, there is no stooping involved in all raking, detaching, picking and attaching operations. With Mitchell's handhold, one would have to be stooping while doing the picking operation. The handhold is not used in the raking, detaching and attaching operations.
- c) lines 28 - 30 : The first and second hand grips may lie on the first or/and second infinite plane (first plane when it is in the intersection between the first and second infinite planes) which, therefore, does not limit it to the same plane as the rake heads like the handhold. The inclusion of a second plane to the first plane provides significant alternative positions for the gripper and recess to perform weight and rotational abutment functions. Mitchell's handhold in the first plane is not meant to and is not capable of housing any rib/s. The second plane is another element not found in Mitchell, therefore, cannot be anticipated.

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- d) lines 31- 32 : The first and second hand grips are facing toward each other in the picking mode. Mitchell's "transverse" handhold does not face another "transverse" handhold during the picking operation because there is no second "transverse" handhold. As stated earlier, the symmetry provided by this element in claim 62 is important to the well-being of the user.

Therefore, the inclusion of the hand grip as recited in canceled claim 62 into the new replacement claim 88 should greatly contribute to differentiating the present invention from Mitchell.

**All in all, the hand grip of the present invention is different in structure, location, function and result from the handhold. It cannot be anticipated on all four counts.**

**b) The lower ends of the first and second elongated members are coupled to the upper ends of the rake heads**

The applicant is assuming that the Examiner considers the word "coupled" as meaning either removably connected or molded together as one piece, hence, too broad. The longer rake handles for the present invention and that of Mitchell could both be removably connected to their respective rake heads. This is the typical, standard way of connecting a long handle to a rake head. In cases where the long handle is made up of several short telescoping members, the largest member may be fabricated as an integral part of the rake head as shown in Figs. 36-A to 39-B. Still, the rest of the telescoping members can be considered removably connected. The semi-cylindrical member attached to the other of Mitchell's rake head will most likely be fabricated as an integral part of the rake head for practical reasons. The

second handle of the present invention will most likely be fabricated as a piece apart from the rake head. However, changing the word "coupled" to "removably connected" as was done in claim 57 does not necessarily differentiate from Mitchell. Mitchell's main claim uses the word "attached". This could mean integrally attached or removably attached. **Therefore, the change is just going to narrow the claim needlessly.** Ideally, a claim should be narrowed only so much until it clears prior art. Changing "coupled" to "removably connected" does not clear prior art anyway so why introduce it at all? There have been infringement cases regarding attachment of parts - whether removably or integrally attached. Both ways were upheld to be equivalent. The specification and figures in the present invention do teach that the rake handles can be integrally attached to the rake head. Therefore, in view of the other substantially differentiating factors already discussed and others that are forthcoming, the applicant prefers not to introduce any changes to this element. Like the hand grip, the "coupled" attachment means is included in the new replacement claim 88 as it was presented in the canceled claim 62.

Hopefully, the Examiner is now convinced that the transverse hand grip of the present invention as recited in lines 17-32 of claim 62 is sufficiently and significantly differentiated from the handhold of Mitchell. The former cannot be anticipated by the latter.

Hopefully, the Examiner is also convinced that the attachment means of the shorter rake handle to the rake head is irrelevant because it is simply dependent on manufacturing facility(labor costs,etc.) which has no bearing on patentability.

**Claim 63**

According to the marked up figure, claim 63 is anticipated because the abutment means of the present invention is already found in Mitchell. This is so because "any portion of the two rake units where they meet is considered abutment means".

Based on the patent law 35 USC112 par.6, "An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof."

This law was used by the applicant in arguing in the RCE about "connecting means". (Please refer to p.12 of the Remarks/Arguments section of the RCE.) This will be used here again to argue about abutment means.

Accordingly, only the abutment means described in the Mitchell specifications are covered under Mitchell's claim/s. Other abutment means that are described in the present invention and are not described in the Mitchell patent should not be considered "anticipated".

The applicant agrees with the Examiner that all the portions of Mitchell's two rake units that meet do serve as an abutment means only in the sense that all the parts of the first rake part where they meet support the weight of the second rake part. That is because where the two parts meet, the first rake part is always under the second rake part, abutting its weight. The first rake handle is under the semi-cylindrical handle of the second rake handle. The flange of the first rake head is under a portion of the second rake head. The applicant will refer to this type of abutment as weight abutment, W. This is not the same as a rotational abutment, R.

One rake has to support the weight of the other. All dual-headed garden implements in prior art used for raking and picking debris have one part supported by the other. The idea of supporting a rake part with another rake part is not what is novel in Mitchell. What is novel is how it is done- like what specific rake part of one rake supports what specific part of another.

Dominant versions of the present invention show that the second handle does not rest on the first handle, thus, not abutted there. Some of the last figures presented in the present invention do show versions of the detachable picking rake where the second handle is above the first handle, thus may be abutted by the first handle. (See Figs.48-A through 49-B.) Even if the Examiner considers this particular weight abutment means as anticipated by Mitchell, that does not necessarily mean that this version of the present invention as a whole is anticipated. There are other elements in the invention not found in Mitchell. These versions of the picking rake also do not infringe any of Mitchell's claims because of other factors. For instance, the direction of motion for detaching and attaching are not equivalent; there are the hand grips and arm leverages; there are the resilient means; and there are the overlapping rake heads.

Nevertheless, the applicant has canceled claim 63. The new replacement claim 89 basically recites the same elements except that it now includes all the limitations of a new parent claim 88. This change is in addition to narrowing the new parent claim 88 with the inclusion of an element that specifies that the rake handles are arranged side-by-side on the same plane as the rake heads. This side-by-side arrangement of the rake handles now differentiates the weight abutment means from that of Mitchell because the second handle is no longer supported by the first

handle in the same way Mitchell does. More abutment differences are covered under the discussion on resilient means.

The abutment means according to 35 USC112 par.6 above now includes everything that is described in the specifications for a side-by-side rake handle arrangement only, even if the claim does not recite any specifics. Those would be mainly several combinations of connecting means comprising of the resilient member/s, and/or the non-detachable connection, and/or the overlapping rake heads, and/or recesses.

**Mitchell's abutment is continuous - starting from the top of the semi-cylindrical handle down to the end of the flange on the first handle. Where weight abutment is provided by more than one element, abutment in the present invention is not continuous.** They usually come in pairs, each part separated quite a distance from the other, some pairs have one part at each end of the picking rake. There is no weight abutment in between each pair part even if the two rake units do "contact or touch" each other there side-by-side. As shown in the figures, some of the combinations that work to abut the two rake units at two non-continuous points include:

- a) non-detachable connection and resilient member,
- b) non-detachable connection and overlapping rake heads,
- c) resilient member and overlapping rake heads, and
- d) two resilient members.

Please also note that unlike Mitchell, all combinations require **no direct** abutment by the tubular member of the first rake unit. Only **indirectly**, because the resilient member and/or the non-detachable connection attached to the first rake unit abut the second rake unit. The overlapping rake heads do not include overlapping tubular members. Combinations (a) and (d) require no abutment of the rake heads.

Sufficient weight abutment can also be provided by a single elongated resilient member or by a single elongated tube with snap button as shown in Figs. 10-A to 13-A. None of them require abutment of the rake heads.

**Therefore, the weight abutment means of the present invention is not equivalent to that of Mitchell because it is derived from different elements and it is non-continuous. It can also be isolated to just the handle section. Therefore, the new dependent claim 89 should be allowed.**

It is important to note that the picking rake can remain functional as a rake and as a picker-upper using abutment and/or connection means that do not even include overlapping rake heads. Mitchell will always need the flange and the hook and opening connecting means on the flange in order to be completely functional as a rake. No substitutable connecting or abutment means are described in the patent disclosure.

Abutment that prevents the rotation of the rake units relative to each other in order to accomplish the objective of the implement is addressed in the next section regarding resilient means. There, rotational abutment between the present invention and that of Mitchell is shown to be non-equivalent, thus further supporting the allowance of claim 89.

#### **Claims 64:**

**Canceled claim 64 according to the marked up figure is considered to be "anticipated" because the resilient connecting means is already in Mitchell.**

The non-equivalence of the resilient means between the present invention and that of Mitchell was exhaustively discussed in the RCE under the subheading: First Connecting Means (pp.13-14) but is again discussed here for further clarification with the aid of illustrations. **One major**

difference pointed out in the RCE was the rotational abutment afforded by the present invention versus that by Mitchell. Mitchell's rib does not provide rotational abutment to counteract the rotation caused by the raking process. The rib simply connects the two rake units, its own weight abutted by the first rake handle. Considering that the opening of the rib is directly below the long handle in the connected position, it cannot and is not expected to support the weight of the long handle. It does provide some abutment against the tendency of the two rake heads to separate sideways but this form of abutment is of little value in the raking process. Without another connecting means, the second rake part will disconnect as soon as raking starts. As a sole connection means, the rib does very little to prevent the counter-clockwise rotation (viewed from the right of the user, the second rake part on the right side) induced during raking. This is because the upward force from raking is translated to a torque on the same plane as the axis of the rib and further translated as a force against the inner walls directly opposite the opening of the rib. The first rake handle acting on the rim of the rib opening provides but a negligible counteracting force against the torque (see Figs. C & C' and H1-H3 on separate pages). With almost nothing for abutment, the torque produced will cause the upward rotation of the entire second rake part. The connection will fail during raking even if the number of ribs along the inner walls of the semi-cylindrical handle is increased; even if the rib is transferred to the first rake handle (if at all possible); and even if the recessed portions on the rake heads are considered. Figs. C and C' are side views taken from the exterior side of the shorter/second rake part. **That is why another connecting means like the hook and opening connecting means is necessary to**

complete the connection. It is the hook and opening means that provide the rotational abutment against raking.

On the other hand, the resilient member of the present invention, embodied in a gripper, not only connects and supports (abuts) the weight of the second rake unit, it also performs a rotational abutment function. The attachment point of the two rake units can be viewed as the fulcrum of rotation caused by raking. Fig.D shows the side view (from the exterior side of the second rake unit) of the completely detachable version of the picking rake where the resilient member is positioned on one of the hand grips such that its axis is perpendicular to that of the longitudinal axis of the elongated handle members and also perpendicular to the axis of rotation of the torque induced by raking. The gripper's opening is facing sideways towards the other hand grip beside it. With the line of the axis of rotation perpendicular to the longitudinal axis of the gripper, the upward force from raking is translated against the lower edge of the walls of the gripper, parallel to the longitudinal axis of the gripper. Because of its location, this force cannot be strong enough to induce the opening to give in and release the portion of the hand grip of the second rake handle that is in it. The top edge of the gripper provide the weight abutment, W. The upper portion of the left wall (provides R1), and the lower portion of the right wall (provides R2) of the gripper cooperatively perform a rotational abutment function in the form of a counter torque against the rotation induced during the raking process. The recess enhances this rotational abutment. Fig.F is a perspective view of a section of the picking rake showing the forces acting during the raking process.

In Fig.E the longitudinal axis of the gripper is parallel to that of the elongated rake handles but still perpendicular to the axis of rotation of the torque from the upward raking force.

This torque is acting against the lower edge of the gripper parallel to the longitudinal axis of the gripper. Therefore, it is not strong enough to pry open the gripper and render the other rake handle loose. The entire bottom wall provides the weight abutment, W. The right portion of the upper wall of the gripper provides R1 and the left portion of the bottom wall provides R2. Together, they provide the rotational abutment force or counter torque. The recess also enhances abutment forces. Fig.G is a perspective view of a section of the picking rake showing the forces acting during the raking process.

The rotational abutment function of the gripper is at work when the gripper is attached to the first or to the second rake handles and when the longitudinal axis of the gripper is parallel or perpendicular to the longitudinal axis of the elongated portion of the rake handle.

Figs. F' and G' show isometric views of a section of the attached picking rake units for two different positions of the gripper. Figs. H1 to H3 are isometric views of a section of the Mitchell rake showing the forces acting on a section of the second rake part during the raking operation.

**The differences in function and results derived simply from the differences in the orientation and location of a resilient means for connecting two rake units are very significant in the inventions being compared. What would normally be taken for granted is used to produce unexpected, unobvious, and favorable results, therefore patentable.**

There has to be the right mix of user convenience (quick snapping action to attach and detach and without stooping) and reliability in staying connected despite vigorous raking (provides rotational abutment). On a one on one basis, the resilient means of the present invention is superior to the Mitchell rib in producing a product with the right mix.

**The resilient means of the present invention is used for weight and rotational abutment.** Prior art including Mitchell, Fiorentino(#4,037,397) and Vella(#5,901,540) have used the characteristic resiliency of a resilient member simply as a means of temporarily preventing other parts of the article from misaligning or separating - a supporting role. As prior art tend to imply, a resilient member also cannot support the weight of a second rake part. **The resilient member is never used as a connection means to achieve the function of the implement.** The present invention has shown that when such resilient member is embodied in the form of a gripper and strategically positioned in a rake handle, it actually can support weight and abut rotational forces. It can perform a major role in producing a fully functional picking rake with completely detachable side-by-side handles. **Either two separate grippers or one long gripper can produce a functional picking rake. Two separate ribs or one long rib cannot produce a functional picking rake.** This idea is definitely novel and unobvious as already argued to some extent in the RCE.

In view of the above and of the other arguments presented in the RCE, **the resilient members of the present invention and that of Mitchell are not equivalent. The rib is a connecting means that does not provide weight abutment nor rotational abutment. The gripper is a connecting means that provides both weight abutment and rotational abutment.**

The applicant has incorporated canceled claim 64 into claim 88 to specify that the two rake handles are arranged side-by-side, the gripper disposed at the inner side of one of the rake handles, the opening facing toward the inner side of the other rake handle. This will confirm that the gripper opens sideways.

Canceled claim 66 is rewritten as new claim 91 under the new parent claim 88.

At this juncture, the new independent claim 88 has, among others, the following elements that are recently argued as non-equivalent to Mitchell's: a) hand grip and its specific location, b) side-by-side handle arrangement, and c) resilient means on the handle. All these should be more than enough to differentiate the present invention from Mitchell, supporting the contention that claim 88 could not have been anticipated by Mitchell, thus patentable. Succeeding arguments are in support of the dependent claims.

**Claim 65:**

Claim 65 is rejected because according to the marked up figures, the recessed portion that snugly receives the gripper (first connection means) is already in Mitchell.

A cross sectional view of Mitchell's invention such as that shown in Fig.6 seem to show that there is a recessed portion (part# 31?) on one side of part# 41 where the semi-cylindrical portion (part# 69) of the second rake part is snugly received. Mitchell's Fig.11 shows the view after the two rake units are connected. Note that this recessed portion is actually acting on the lower section of part # 69 - the section that covers the tubular member (part# 41) of the first rake unit. This recess does not act at all on rib 81 itself. Rib 81 is disposed to "snap" over a portion of the first rake handle above the tubular member. There is no "recess" on that specific portion of the first rake handle where the rib is snapped on. Even if there is a recess that snugly holds the rib, the recess and the rib together still wouldn't be performing an effective rotational abutment function against the torque from the upward raking force to prevent the grip from releasing the first rake handle. This is because the opening of the rib is still directly

opposite the rib wall where the torque acts. Like the hook and opening connection, this recess 31 helps to align the entire second rake part with the first rake part. Like the rib, it may perform an abutment function against a tendency of the two rake heads to separate sideways. This tendency for the dual rake heads to move apart sideways is nil and Mitchell has unnecessarily provided excessive abutment in this direction. Abutment function addressed against this tendency is of lesser value than the rotational abutment against the upward force generated when raking.

Also, Mitchell's recess does not perform the function of helping in supporting the weight of the second rake part at all (unlike the recess in the present invention which will be explained shortly). It just happens to be on the flange of the first rake part.

The recessed portion of the present invention disposed on the second rake unit acts on the body of the gripper itself in order to align the second rake unit with the first rake unit. Since the gripper is on the part of the rake handle within reach of an upright user, alignment of the two rake units is made possible while the user is upright.

As shown in Fig.F', it helps the second rake handle in getting a secure firm grip from the gripper, thus, allowing the gripper to support (abut) the weight of the second rake unit. The recessed portion also supplements the mounting means of the gripper, making the gripper more firm and unwielding as it abuts the rake units during the raking process.

In Fig.G' where the gripper is disposed on the elongated member with its longitudinal axis parallel to that of the elongated member, the recess further abuts the second rake handle from going forward or backward.

Therefore, the recessed portions compared are not equivalent. They are not only structurally different; they do not perform the same function in the same way, and do not give the same results. No prior art has used the gripper and recess combination before as a means of connecting and abutting two rake units side-by-side as was done in the present invention. This idea is novel, unobvious, thus, patentable. Claim 65 is now resubmitted as new claim 90 under the new parent claim 88 and should be allowed.

**Claim 66:** (also see Claim 64 above)

**Based on the marked up figure, Claim 66 is rejected because it is dependent on claim 64 and claim 64 is rejected because the resilient means is anticipated in Mitchell.** This claim is canceled and resubmitted as claim 93 under the new parent claim 88. The resilient means in claim 64 of the present invention is argued to be non-equivalent to the resilient means in Mitchell. The addition of an aperture on the gripper of claim 88 and a snap button on the other rake handle should further differentiate this version of the picking rake from Mitchell. The resilient button head or positioning head of the snap button in one of the handles is engaged into the aperture of the gripper on the other handle, abutting the two rake units from motions directed front to back and side to side. The head has to be depressed by the user's finger to disengage the head from the aperture during detachment. The snap button has no equivalent in Mitchell. The possibility of using a snap button or equivalent is nowhere mentioned in the Mitchell disclosure. Structurally, the rib cannot house an aperture. The hook and opening connection is rigid, located on the rake head and detaches/attaches by rotating the rake parts forward/backward - a very different manner from the snap button. A snap button is

resilient, located in the handle, and detaches/attaches by depressing/releasing a button. Therefore, new claim 93 should be allowed.

**Claim 67:**

**Claim 67 is canceled and replaced with new claim 91.**

The applicant is assuming that Claim 67 is rejected as either being a claim dependent on rejected parent claims 62 and 63 or being anticipated because the overlapping rake heads are already found in Mitchell. Claim 62 is canceled and replaced with claim 88. The applicant has argued earlier regarding the non-equivalence of the overlapping rake heads and the flange in pp. 20-21 of the RCE. The applicant is requesting the Examiner to please review those arguments again.

**To recapitulate, the "underlap" of the first rake head of the present invention is not equivalent to the flange 35 of Mitchell. While they both primarily provide weight abutment, they each have different secondary functions.**

**Mitchell's flange is also a housing for the hook and opening connecting means, the only means Mitchell has in order to counteract rotational raking forces. Here, the raking force is allowed to attack the tines of the second rake head. The hook and opening connection above the tines then abuts the second rake part from rotating upward.**

**The present invention's underlap does not house a connecting means that can abut rotation. Instead, it contributes to the picking span of the picking rake and, by itself, that is, without the need of a connecting means like the hook and opening, literally and directly shields the second rake head from the upward rotational force induced by raking. Because of this shield, the upward raking force cannot directly attack the entire line of tines in the second rake head. The rake head that**

has the underlap absorbs most of the force. Any force acting on the "unlapped" outer section of the second rake head is insufficient to detach the connected units. Because of this, the need for a rotational abutment means in the rake head is obviated. Only one other connecting means in the handle is needed to complete the picking rake. This connecting means need not even contribute rotational abutment.

**The overlapping sections of the rake heads of the present invention of which the underlap is part, also provide a desirable aesthetic value to the detached rake units because of the resulting symmetry of the rake heads. The flange, on the other hand, actually contributes to the unsymmetrical look of the detached rake parts.** The Mitchell disclosure does not teach about a second flange for the second rake head (for symmetry) nor that the first flange can be extended all the way down to include tines (for larger pick-up volume and shielding against the upward raking force). **Actually, it is not possible to extend the flange down to the tines section because that would interfere with the function of the hook and opening connection. A flange extending beyond the hook and opening connection will obstruct the second rake head from rotating about the connection during the detaching and attaching operation.** The flange can be extended all the way down to the tines but the hook and opening still have to be at its lowest point. The hook and opening will then definitely be more clogged during the raking and picking operations. If the Mitchell rake head is to be made symmetrical, it has to be done by some other means if it is at all possible. But never by extending the underlap downward as is done in the present invention.

**The intermeshing of the tines of the overlapping sections unexpectedly contribute some amount of side-by-side abutment.** While forces that tend to separate the picking rake head

sideways are nil, this additional form of abutment may be unnecessary but welcome to produce a completely functional picking rake. It is only to the picking rake's advantage that such extra abutment is inherently available just in case. This side-by-side abutment is easily overcome during the usual detaching operation.

**Therefore, the overlapping rake heads cannot have been anticipated by Mitchell's flange. The overlapping rake heads contribute a unique kind of functional value as well as aesthetic value. On the other hand, the flange contribute not only another kind of functional value; it even reduces aesthetic value.**

Again, here are differences in structure, function, and results between the underlap of the present invention and the flange of Mitchell. The fact that prior art has not come up with overlapping side-by-side rake heads render this element of the present invention unobvious. Therefore, canceled claim 67 resubmitted as claim 91 under the new parent claim 88 should be allowed.

**Claim 68:**

The reason for rejection of claim 68 is not shown in the marked up figure, therefore, the applicant is assuming that it is rejected as being dependent on a rejected parent claim 62. If claim 62 is allowed, claim 68 should also be allowed. After all, this claim recites a non-detachable connecting means that is not found in Mitchell. **In view of the coverage offered by the other new claims, claim 68 is canceled.**

**Claims 69 - 72:**

Claims 70 - 72 are rejected because the arm leverages and extensions are anticipated in Mitchell. Claims 70 - 72 are all

dependent on claims 62 and 69 but since the marked up figure does not indicate the reason why claim 69 was rejected, the applicant is assuming that claims 69-72 are all rejected for the same reasons.

Arm leverages and/or extensions that serve the same purpose as those found in the present invention are nowhere to be found, explicitly nor implicitly in Mitchell. Therefore, it cannot have been rejected as being anticipated by Mitchell.

On the other hand, it may have been rejected as being anticipated by other prior art even if the OA did not point this out specifically. Pages 35-40 of the RCE were devoted to arguing the novelty and unobviousness of the present invention's hand grip and arm leverage in light of Jenkins, Callis, Mencarelli et al., Hoffman, and Blessing. Pages 6-18 of the supplemental submission sent shortly after the RCE also covered arguments based on the latest uncovered prior art, Lintz. Because of the large extent of argumentation covered therein, the applicant can only refer the Examiner back to those papers. The arguments presented therein are not moot.

Then again, if claims 69-72 are rejected not because of prior art but because they are dependent on the rejected base claim 62, they should be allowed if claim 88 is allowed. Therefore, claim 90 that recites the elements in canceled claims 69-72 as "arm leveraging means" should be allowed.

**Claim 73:**

**According to the marked up figure, claim 73 is rejected as anticipated as shown in Mitchell's Fig. 6 because Mitchell's first and second elongated members are also lying on the first infinite plane and there is also the resilient connecting means on one of the elongated members that snaps and holds the other elongated member.** The resilient connecting means was argued

earlier as not equivalent between the present invention and Mitchell using illustrations for specific positions and locations of the gripper.

The applicant has canceled claim 73 and incorporated its elements into the new claim 88 to make the distinction clearer. The side-by-side handle arrangement on the same first plane as the rake heads and the orientation of the gripper/resilient member are both specified to further support the allowance of claim 88.

**Claims 74 and 75:**

**According to the marked up figure, claims 74 - 75 are rejected as anticipated because they are both dependent on claim 62 which in turn is rejected because the lower ends of the first and second elongated members are coupled to the upper ends of the rake heads just like in Mitchell.**

**As explained earlier under claim 62, the applicant has preferred not to change "coupled" because it just narrows the claim needlessly. Claim 88 already has more than enough elements to substantially differentiate from Mitchell. Narrowing the claim further by adding the other differentiating elements in claim 74 should only work to support the allowance of the claim.**

Claims 74 recite resilient member with snap button and aperture connecting means that are not found in Mitchell. The gripper and the "rib" may both be resilient yet how can the rib house an aperture for engaging a snap button head? Snap buttons are nowhere described or implied in the Mitchell disclosure. The presence of the snap button in the present invention and not in Mitchell supports the contention that the invention cannot have been anticipated by Mitchell.

Canceled claim 74 is resubmitted as a new claim 91 dependent on a new parent claim 88. If claim 88 is allowed, claim 91 should be allowed as well.

In claim 75 the connecting means is a single elongated tube with an aperture and a snap button. Clearly, there is nothing in Mitchell to compare the "tube" with. Or the snap button.

Canceled claim 75 is resubmitted as a new independent claim 95 apart from claim 88 because it is not limited to overcoming the position of the resilient member in Mitchell (side-by-side handles with the gripper opening on one handle facing the inner side of the other handle on the same plane as the rake heads). It does not involve the use of a gripper. It is attached and detached with a pulling forward/backward motion - not sideways or clockwise/counterclockwise rotation. It need not have the overlapping rake heads. No other fixedly connected or completely detachable dual-headed rake in the long history of the art has this kind of connection. The tube and snap button idea is novel and unobvious, therefore patentable.

The applicant is requesting the Examiner to evaluate the above position again because it might have just been overlooked in the preparation of the OA of 1/14/04.

This version of the picking rake is not covered under claim 88, It should not be subject to restriction because it is very much related to the other versions. It is obvious in light of the other versions of the picking rake, particularly the one with the elongated gripper and snap button, thus, cannot be supported by a separate patent. If ever, very little extra work is required for the examination of this claim because of its very close relationship to the other versions also being examined. The same references apply to all of them.

**Claim 76:**

Claim 76 recites telescoping capabilities for claim 62. No prior art in the field has this feature and used in the same way as in the present invention. Therefore, this could not have been anticipated. Claim 76 is canceled and resubmitted as claim 94 to reflect a new parent claim 88. Therefore, if new claim 88 is allowed, claim 94 should be allowed also.

#### **Claims 77 - 79**

##### **Claim 77:**

Claim 77 is an independent claim devoted solely to the handle having a hand grip and arm leverage. The marked up figure is rather vague in pointing out how it is anticipated by Mitchell. Mitchell does not have a hand grip; neither its handhold nor its semi-cylindrical handle is equivalent to the hand grip. Mitchell also does not have anything that can be compared with the arm leverage of the present invention. Therefore, it could not anticipate the present invention. The applicant is assuming that what the Examiner meant is that it is anticipated by other prior art.

Accordingly, the applicant is again referring the Examiner to the arguments supporting claims 69-72 above. It is argued that the hand grip and arm leverage of the present invention is not equivalent to any in prior art based on two counts: differences in structure and results, differences that are in contradiction to what is taught in prior art, thus, novel and unobvious and patentable.

The Examiner did not specifically single out Lintz as anticipating the present invention but the applicant is arguing against it nevertheless just for the record in case. Lintz is teaching that a grip handle extending at an acute angle from the elongated portion of the handle is providing an ergonomic

advantage. The applicant has shown in the RCE supplement that no ergonomic advantage exists. In fact, the acute angle necessitates the downward bend at the proximal end of the elongated member to minimize interference during the raking process. A hand grip extending from a straight elongated member at an angle of 90 degrees can be held at the same angle as the "acutely" connected grip shaft of Lintz. The straight elongated member does not interfere therefore needs no bending. Tilting the handle just slightly to effect the acute angle also desirably brings the rake heads down further towards the debris pile. There is more flexibility in a 90 degree connection because the hand grip can be made to slightly tilt to several equally comfortable positions. A slight tilt does not adversely affect the positioning of the arm leverage as much as a bent one.

The applicant has tested handling a grip shaft, A, extending at an acute angle from an elongated member vs a hand grip, B, that extends at a normal angle like the present invention. Both the elongated members are the same length. Both the grip shaft and the hand grip were held at the same comfortable angle relative to the user. See Fig. I-A. Result: The Lintz rake handle extends so much closer to the body as to cause interference. Also, the rake head is farther above the ground.

When the proximal end of the elongated member with the grip shaft is bent down and outfitted with an arm leverage, the comfort has turned to discomfort. If a user remains upright and the hand tries to maintain the same comfortable stance as in Fig I-A, it has to bypass the arm leveraging region, rendering it useless if not in the way. See Fig. I-B. If the leverage region is not bypassed, it is almost impossible to comfortably use the arm leverage while the user is upright. The elbow and wrist must both be substantially bent to conform to the arm leverage region

and angle of the grip shaft. If the bent elbow is not low enough for the arm leverage, the knees will have to bend.

If the arm leveraging region is aligned with that of the present invention's and the user remains upright, the acute angle of the grip shaft becomes even more acute relative to the user. The user has to stretch his/her wrist downward resulting in a very uncomfortable position for the hand even if the elbow is no longer bent. See Fig. I-C. Actually, an obtuse angle becomes desirable in this case.

Then again, Lintz bent handle is alright if the user uses it with the body stooped forward, and head substantially bowed down while picking a debris pile located right in front and very close to the user. Fig. 1 in Lintz' patent and Fig. I-D in this paper show the hand and part of the arm in this situation. To lift the grasped debris for releasing into a regular trash can or leaf bag, the user straightens up himself/herself and lifts his/her hand. Then, he/she again stoops body forward, and bows head down to pick the next rakeful. There is the straightening up and stooping/head bowing cycle that can tire the user. While this cycle may be an improvement over existing means of debris disposal, it still is not comparable to the improvement offered by the present invention - no stooping, no substantial head bowing, always upright for raking and picking.

Furthermore, a 90 degree hand grip on a straight elongated member allows the rake units to be interchangeable between the left and right hands without detaching and reorienting the rake heads nor flexing a flexible arm leverage. To interchange, the hand grip is simply held above rather than below the elongated member by the other hand. It is also easier to fabricate and provides more efficient translation of forces associated with detaching, attaching, and raking - all without sacrificing user comfort. Please also refer to pp. 6-18 of the RCE Supplement.

Based on the above, the difference between an acute grip shaft and one greater than acute is shown to be substantial and unobvious, therefore supports patentability.

A search of prior art in the field did not reveal a rake/picker-upper combination having a straight elongated member unobstructed on one side for connecting to another handle. Mitchell's short handle may be also straight **but** it is connected **over** (not side-by-side) the other handle on the same plane as the rake heads. The short handle also does not have the equivalent of a hand grip and arm leverage. The straight-handled rakes in prior art usually have extensions that are symmetrical on both sides of their elongated member. These rakes are not meant for connecting side-by-side with another similar rake. The symmetrical extensions **obstruct** the idea that two handles can be connected in the manner done in the present invention. Extensions of the Lintz handle may be viewed as directed toward one side like the present invention. However, a **bent** handle like Lintz' certainly cannot remotely teach or imply the connection of the present invention. If connected along the bent section, the rake heads will be far apart, the contact length for connecting the handles will be limited, and the resulting side-by-side connected units will be too wide. If connected along the straight section next to the rake head, the contact length will still be limited, the arm leverage section will be far apart, and the connected units will still be too wide. Although Lintz' main claim does not specify a bent handle, the "acutely" attached grip shaft necessitates its being bent in order to minimize interference on the user. In other words, the handle has to be bent in order to accommodate the non-existent "ergonomic" advantage of the acute grip shaft. The side-by-side connection of the present invention is not anticipated by any prior art, is novel and unobvious, thus patentable. Likewise,

the straight handle of one of the rake units that embody this kind of connection is novel and unobvious, thus patentable as well.

Claim 77 is canceled and replaced with claim 105 in order to incorporate substantial amendments that clearly define the differentiating elements.

**If the Examiner agrees that the picking rake embodies a novel and unobvious implement, it should not restrict the allowance of claim 105 for the reason that it covers just one of the handles of the picking rake.** This handle is so obvious in light of the disclosure for the picking rake, therefore, cannot be supported by a separate patent. Also, there is no extra burden imposed on the Examiner to examine this claim because the references that apply to the picking rake also apply here.

The dual handles are elements of the picking rake that greatly contribute to the novelty and unobviousness of the present invention. The first rake unit has a handle that houses the resilient connecting means, one of the hand grips, and one of the arm leverages. The second rake unit has a handle that houses a section for receiving the resilient connection means, the other hand grip, and the other arm leverage. Figures in the disclosure especially for the detachable versions of the picking rake clearly show this second rake unit as the product covered in claim 105. The handle can therefore be viewed as one of the intermediate materials for producing the picking rake. The picking rake and the handle are **not independent** of each other.

**According to MPEP 803, the criteria for restriction between patentably distinct inventions are a) the inventions must be independent, and b) there must be a serious burden on the Examiner. Not one criterion is satisfied in this situation, therefore, claim 105 should not be restricted.**

The commercial potential of the present invention may depend on the allowance of claim 105. If it is not claimed as an independent claim, anyone can just market one handle at a time with or without a rake/holding head and the connecting means separately without infringing on the present invention. Please note that Lintz has separate claims for just one handle and a pair of handles, all part of a system.

**Claim 105 as written clears prior art because it covers the following:**

- a) a substantially straight elongated member,
- b) hand grip angle greater than acute,
- c) a cylindrical portion on the inner side of the handle for detachably receiving a resilient connection means,
- d) an arm leverage that ranges from one vertical member to a partial loop,
- e) both the hand grip and arm leverage extending toward one (right) side in order to leave the opposite (left) side or inner side unobstructed to contact another handle in a side by side arrangement. As a result, the rake unit becomes a rake that can be used in the conventional manner when connected and also as a picker upper when detached.

**Based on the presence of the novel and unobvious differentiating elements above, claim 105 should be allowed.**

**Claims 78-79:**

Claims 78 and 79 are dependent on canceled claim 77 (now presented as claim 105), therefore their allowance hinges on the allowance of the parent claim. They are each narrower than claim 77 by the addition of extensions for connecting the hand grip with the arm leverage and for telescoping at least one of the handles. If claim 105 is allowed, more so claims 78 and 79. Both

claims 78 and 79 are amended to incorporated their dependence on the new parent claim 105.

**3. Claims 57-61 and 80 are allowed:**

**Response:**

The applicant is grateful for the allowance of claims 57-61 and 80, and for the consideration of claims 82-86.

**4. Claims 82-86 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.**

**Response:**

The base claim 81 is rejected as being anticipated by Mitchell. The applicant is assuming that it is because the connecting means element is too broad. This is because claims 82-86 (all of which recite connecting means) would be allowed if rewritten in independent form including all of the limitations of claim 81. The applicant is grateful for this consideration for allowance and has rewritten the claim/s to meet the Examiner's requirements with a few changes made on claims 82, 83 and 84 that are explained shortly. They are presented in three very different ways because the applicant is unsure of how the Examiner wants it done. Any of the three methods satisfy the Examiner's conditions but the applicant prefers method ©. The Examiner can have the liberty of choosing and allowing any method preferred. The results are summarized as follows:

- a) Claim 99 : one independent claim with elements of currently amended claims 82,83, & 84, and previously presented claims 85 and 86 included in the original, previously presented claim 81 as a Markush type grouping,
- b) Claims 100-104 : independent claim versions for the currently amended claims 82, 83 & 84, and previously presented claims 85 and 86 respectively, incorporating all the limitations in the original, previously presented claim 81, and
- c) currently amended claim 81 - the words " a connecting means for flexibly and pivotally holding and connecting to the other..." in lines 21-22 are replaced with "part of a connecting means for flexibly and pivotally holding and fixedly connecting to the other...". Under 35 USC Section 112 par.6, the words "fixedly connecting" will be construed to cover only the corresponding **non-detachable** connecting means described in the specifications and their equivalents even without the recitation of structure, material or acts in the claim itself. Claims 82-86 recite those non-detachable connecting means. Claims 82-84 are amended. Claims 85 and 86 remain unchanged.

The second method will have a very lengthy result, somewhat unnecessarily redundant. Where the Examiner prefers the first or the second method, Claims 81-86 are considered canceled. If the third method prevails, claims 81-87 should be allowed.

The applicant has rewritten claims 81-104 based on the Examiner's requirements except for a minor correction on claim 82 and the inclusion of broader amended claims 83 and 84.

In **claim 82**, the last two words "**retaining knot**" is replaced with the word "**retainer**" because it may not be possible

to tie a chain, or equivalent flexible elongated material into a knot. This is not new matter because "retainer" is just a broader word for "retaining knot".

The applicant realizes that the previously presented **claims 83 and 84** are narrower than what the disclosure deserves. Therefore, the applicant is presenting alternative claim elements to replace some elements in claims 83 and 84 in order to broaden the scope of the claim but without the introduction of new matter and going into the realm of prior art.

As also cited in the RCE Remarks/Arguments section (p.26), 35 U.S.C. 103 par.(a) states ..."Patentability shall not be negatived by the manner in which the invention was made." Some of the fixedly connecting means based on the disclosure use apertures as a way to attach rings or other flexible connectors to the rake handles. The applicant used this method of attachment in the prototype because it is simple, thus, easy to install and to depict in drawings. There are other ways of attaching these connectors. A claim that states simply "a ring attached to the upper end of the rake handle..." instead of "a first aperture on the upper end of the rake handle...a first ring attached to the first aperture..." should adequately cover apertures also because that is one way of attaching rings to handles. This way, the claim is broadened yet remain within the realm of the disclosure of the present invention, therefore legitimate. No new material is introduced.

This form of broadening is necessary during these times when almost everything can be pre-molded in the fewest number of pieces as possible to cut assembly costs. In such cases, there might be no aperture or any attachment element for that matter. Since there is no non-detachable dual-headed rake implement in prior art that describes this type of relationship/connection between the dual rake units, the method of attachment of the

elements like rings, chain, cord, screw eyes, or other flexible elongated member need not be specified in the claim to overcome prior art. Claims 83 and 84 are amended to reflect this broader coverage.

By the same token, claim 84 can be further amended. The element that states that "the second ring is turning freely around the cross-sectional perimeter of the elongated portion of the other rake handle", is broadened to state "means for freely turning at least one of the first and second rings at least substantially 90 degrees freely around the orthogonal cross-sectional perimeter of the handle it is on". Here again, is not new matter. The same desired result is produced whether the turning is done at the first or at the second handle or at both. The same desired result is achieved even if the rings turn only about a quarter turn instead of all around the entire perimeter. The idea is that at least one of the rings freely turn at least about a quarter around the cross-sectional perimeter of the handle it is on. The quarter turn minimum for at least one of the rake units is implemented in all the non-detachable versions of the picking rake when the rake units are turned to face each other before a picking operation. The idea is amply supported in the disclosure. All prior art is overcome considering that there is no other connection like it and also considering the other very unique elements in the parent claim 81.

**The applicant is apologizing for the inconvenience caused by not presenting the broader versions of claims 82, 83, and 84 with the RCE earlier. The objections and conditions for allowance set by the Office Action regarding claims 81-87 made the applicant realize the narrowness of the previously presented claims 82, 83, and 84. Patent claims are those things that just ought to be given a chance despite the nuances. Even small changes can translate to a stronger patent. By broadening some**

of the elements, the applicant is trying to minimize the narrowing impact of the Examiner's conditions for allowance. Furthermore, the changes are still covered by what is in the disclosure. No new matter is introduced. They are very likely to have been accepted had they been presented earlier in the RCE.

**Claim 87:**

Claim 87 covering overlapping rake heads for claim 81 is rejected because it is anticipated by Mitchell. The applicant has argued earlier that the underlap of the present invention is not equivalent to the flange in Mitchell. Regardless, if amended claim 81 is allowed (method © is preferred), claim 87 should also be allowed because the questionable flange is only one of the many elements in Mitchell. Claim 81 as amended already differentiates the present invention from Mitchell with or without overlapping rake heads.

**New Claims:**

**Claims 88-98:**

In all the above, the applicant has presented strong arguments towards the non-equivalence of cited specific elements of previously presented independent and dependent claims between the present invention and Mitchell. Note that these cited elements are only parts of the rejected claims. Even if the Examiner is not favorably convinced of the arguments in some or any of these specific elements above, that should not necessarily result in a claim not being allowed for the reason that it is anticipated by prior art. Based on the definition of "anticipation", Mitchell does not "anticipate" the present invention because it does not teach every aspect of the present

invention nor show all the features of the present invention explicitly or implicitly.

As the Examiner can see, the applicant has applied the doctrine of equivalents on an element by element basis to argue the allowability of the rejected claims. In all cases, each of the elements is argued to be non-equivalent to their supposed Mitchell counterpart. And even if the Examiner is not convinced in some of them, an invention can have some elements that can be considered equivalent to elements in a single prior art reference and still be "not anticipated". If other elements in the present invention are not found in the reference and are significant and unobvious, the invention is still patentable.

In addition to the one-on-one or element-by-element comparison between the present invention and Mitchell's, there are other angles that the applicant would like to explore to further convince the Examiner regarding the patentability of the completely detachable version of the picking rake. One is the difference in the motions involved during the detaching and attaching operations. Unlike the user of the present invention, a Mitchell user would be stooping during the picking operation and that his/her hands would be holding onto an elongated member or handhold of the second rake part instead of hand grips. This operational difference is translated to structure by specifying the location and orientation of the hand grips and the resilient member. Given the structure, the detaching and attaching operations are consequently defined. The fact that these operations are different from any prior art further supports the substantial difference afforded by just the hand grip and resilient member.

Note that Mitchell's direction of motion involved in the detaching and attaching operations is similar to that in art prior to the Mitchell patent. To use the implement, the handle

of the second rake unit is rotated forward clockwise (when viewed from the right side of the user) to separate the two grasping heads. For Mitchell, the fulcrum is the detachable hook and opening connection. For other non-detachable prior art rakes, the fulcrum is the fixed connecting means. In some cases, the whole implement is first turned sideways before the rotation. The Mitchell rake can also be turned sideways before the rotation. None in prior art shows two rake units put together and pulled apart sideways along the plane of the rake heads like the present invention for either the detachable and non-detachable versions. There is no rotation of the handles involved, thus, no fulcrum. Just a simple pulling apart and a simple pushing together on substantially the same plane as the rake heads does the job of detaching and attaching the two rake units respectively.

Nothing in Mitchell's disclosure explicitly nor implicitly point to the possibility of detaching and attaching the two rake parts sideways. All the connecting and abutment means cooperate to prevent sideways motion between the two rake parts. All the recesses abut the parts from separating sideways; the semi-cylindrical handle and the rib inside it abut sideways but not against the upward raking force; the hook and opening connecting means that is the only connecting means that abuts against the upward raking force also abuts sideways. **The sideways separation that Mitchell considers as undesirable is transformed by the present invention into a detachment advantage. And the forward rotation that Mitchell considers as a detachment advantage is transformed by the present invention into an attachment advantage.**

The applicant is using the above argumentation to additionally support the allowance of new claim 88. The handles being side-by-side on the first plane and the orientation of the

hand Claim 88 covers canceled claims 64 and 73 plus the side-directed motions for joining and detaching the rake units. Claim 88 covers the completely detachable picking rake with the resilient member attached to either a hand grip or to an elongated member - Figs. F and G of this paper.

Another new independent claim 95 covers another of the possible completely detachable picking rakes that involves a tube and a snap button. This claim replaces canceled claim 75.

A dependent claim further including a forearm leveraging means is each written for claims 88 and 95. These are claims 92 and 97 respectively. Although the forearm support is recited in the claims as simply forearm leveraging means, this will be construed to include only those described in the specifications.

Canceled claim 74 is rewritten as claim 91 and 96 to reflect its dependence on the new parent claims 88 and 95 respectively.

Canceled claim 76 is rewritten as claims 94 and 98 to reflect its dependence on claims 88 and 95 respectively.

Canceled claim 66 is rewritten as claim 93.

**Claim 105:** replaces canceled claim 77. Please refer back to response for claim 77 above.

**Further proof of non-equivalence of the two inventions even in the raking mode using an equational type of approach:**

The applicant is exploring an equational type of approach to further convince the Examiner regarding the allowance of both the non-detachable and detachable versions of the picking rake. This approach shows that the two inventions actually differ even in the raking mode.

In the raking mode, the two rake parts/units are connected. For the purpose of this equational illustration, it is assumed that the shorter rake member is on the right side of the user for both inventions and rotation is viewed from the right side of the user. Also, the use of the hand grip during raking for the present invention is isolated. The fact that it is there can only support further the results of this equational approach.

**Mitchell Rake                      =   Present Invention**  
**in the raking mode              in the raking mode**

**The equality sign in the above logical expression signifies that each of the rakes as a whole substantially function in the same way and give substantially the same results in the raking mode.**

Absent the hand grip of the present invention, the raking process can be considered essentially the same for both inventions - raking is done in the conventional way.

Components of the Mitchell rake at work in the raking mode:

- a) resilient member designated as RIB
- b) hook and opening connecting means designated as HO
- c) recessed portion explained in p.    of this paper -rear portion 31 of the side wall 25 designated as SWrecess

Components of the Present Invention at work in the raking mode:

Version 1

- a) resilient member that snaps on the hand grip (shown in Fig. F of this paper) designated as GRIPPER1
- b) underlap designated as UDL
- c) recessed portion shown in Figs. F or G of this paper designated as GRPrecess

Version 2

- a) GRIPPER1
- b) resilient member that snaps on the elongated portion of the handle (shown in Fig. G of this paper) designated as GRIPPER2
- c) GRPrecess

Version 3

- a) GRIPPER1
- b) GRIPPER1
- c) GRPrecess

Version 4

- a) GRIPPER2
- b) GRIPPER2
- c) GRPrecess

Version 5

- a) GRIPPER1
- b) GRPrecess
- c) non-detachable connecting means designated as NDC

Version 6

- a) GRIPPER2
- b) GRPrecess
- c) NDC

Version 7

- a) resilient member positioned on the handle like GRIPPER1 that snaps on one of the hand grips having an

aperture through which a positioning head from a snap button can be engaged designated as GRIPPER3

- b) a snap button disposed in one of the hand grips having a positioning head designated as SNPBUTTON1

#### Version 8

- a) resilient member positioned on the handle like GRIPPER2 that snaps on one of the elongated members having an aperture through which a positioning head from a snap button can be engaged in designated as GRIPPER 4
- b) a snap button disposed in one of the elongated members having a positioning head designated as SNPBUTTON2

#### Version 9

- a) a tube disposed on one of the elongated members having an aperture through which a positioning head from a snap button can be engaged in designated as TUBE
- b) SNPBUTTON2

#### Version 10

- a) NDC
- b) UDL

The 10 versions of the present invention are all functional in the raking mode despite varying degrees of rotational abutment. Mitchell has only one version that is functional in the raking mode. Presented in the form of equations,

(Versions 1-10):

Equation A:

$$\text{Mitchell Rake} = \text{Present Invention}$$

in the raking mode                      in the raking mode

Equation B:

$$\begin{aligned}
 \text{RIB} + \text{HO} + \text{SWrecess} &= \text{GRIPPER1} + \text{UDL} + \text{GRPrecess} \\
 &= \text{GRIPPER1} + \text{GRIPPER2} + \text{GRPrecess} \\
 &= \text{GRIPPER1} + \text{GRIPPER1} + \text{GRPrecess} \\
 &= \text{GRIPPER2} + \text{GRIPPER2} + \text{GRPrecess} \\
 &= \text{GRIPPER1} + \text{NDC} + \text{GRPrecess} \\
 &= \text{GRIPPER2} + \text{NDC} + \text{GRPrecess} \\
 &= \text{GRIPPER3} + \text{SNPBUTTON1} \\
 &= \text{GRIPPER4} + \text{SNPBUTTON2} \\
 &= \text{TUBE} + \text{SNPBUTTON2} \\
 &= \text{NDC} + \text{UDL}
 \end{aligned}$$

**The Office Action argues that: RIB = GRIPPER1**

$$\text{RIB} = \text{GRIPPER2}$$

$$\text{RIB} = \text{GRIPPER3}$$

$$\text{RIB} = \text{GRIPPER4}$$

$$\text{SWrecess} = \text{GRPrecess}.$$

The applicant will refer to these as Equations C.

Therefore, for the equivalence in Equations B to hold, the following must also hold:

Equations D:

$$\text{HO} = \text{UDL}$$

$$\text{HO} = \text{GRIPPER1}$$

$$\text{HO} = \text{GRIPPER2}$$

$$\text{HO} = \text{NDC}.$$

$$\text{HO} = \text{SNPBUTTON1}$$

$$\text{HO} = \text{SNPBUTTON2}$$

This means that Mitchell's hook and opening connecting means must be equivalent to any one of the present invention's underlap, grippers, non-detachable connecting means, or snap

buttons. However, by virtue of the fact that no Office Action to date has argued or even made mention that any of these expressions could be remotely true, it is reasonable to assume that the Examiner accepts them to be non-equivalent, distinctly and uniquely different from each other. A close examination of each of these unequivocal pairs supports this assumption. Apart from the obvious differences in structure, there are differences in function and result. These are:

The hook and opening means (HO) on the flange is a rigid detachable connection means on the rake head that is the only source of rotational abutment for the rake. It abuts the second rake part in directions - counterclockwise, sideways, up and down (weight abutment), except in the clockwise direction of detachment. It contributes no pick-up volume and no aesthetic value.

The underlap (UDL) is also on the rake head but is not a connection means. It provides weight abutment and acts as a direct shield of the second rake unit from rotational forces induced by raking. Some sideways abutment is inherently derived from the intermeshing of the tines. It is also used to increase pick-up volume and contribute some aesthetic value to the invention.

The resilient means (GRIPPER1) is a connection means that (without the GRPrecess) abuts the second rake unit in directions - front to back, clockwise and counter-clockwise. It is located on the handle grip and not on the rake head. It is resilient while HO is rigid. The resiliency effects a snappy non-rotational detachment motion directed towards the opening of the resilient member. The rigid HO effects a clockwise rotational detachment motion to dislodge the hook from the opening.

The resilient means (GRIPPER2) is a connection means that (without the GRPrecess) abuts the second rake unit in the

directions - up and down, clockwise and counter-clockwise. It is located on the elongated member of the handle and not on the rake head. It is resilient while HO is rigid. The resiliency argument from GRIPPER1 applies here as well.

The non-detachable connecting means (NDC) is a connection means that fixedly connects and abuts the second rake unit in the directions - up and down and front and back. It is located on the upper end of the shorter rake handle and the adjacent section of the longer rake handle but not on the rake head. It is a fixed connecting means while HO is a detachable connecting means.

The snap button (SNPBUTTON1) is an abutment means in directions up and down and side to side using a resilient positioning head that engages in and out of an aperture. The hook of HO is not resilient.

The snap button (SNPBUTTON2) is an abutment means in directions front to back and side to side using a resilient positioning head that engages in and out of an aperture. The hook of HO is not resilient.

Throughout, it is clear that there is no equivalence in structure, function, and result between HO and any of the compared elements from the present invention in Equations D above.

That being so, the following equations result:  
Equations E:

HO  $\neq$  UDL

HO  $\neq$  GRIPPER1

HO  $\neq$  GRIPPER2

HO  $\neq$  NDC

HO  $\neq$  SNPBUTTON1

HO  $\neq$  SNPBUTTON2

Therefore, even if Equations C are true, which they are not, there are still the unquestioned non-equivalences of Equations E that differentiate the present invention from Mitchell. And if Equations C and E are true, then Equation B cannot be true, that is,

$$\begin{array}{ccc} \text{Mitchell Rake} & \neq & \text{Present Invention} \\ \text{in the raking mode} & & \text{in the raking mode} \end{array}$$

supporting the idea that as a whole the Mitchell rake is not equivalent to the picking rake in the raking mode.

Since Equations E are unquestionably true and if Equation B is assumed true, the following Equations F is true:

$$\begin{aligned} \text{RIB} + \text{SWrecess} & \neq \text{GRIPPER1} + \text{GRPrecess} \\ & \neq \text{GRIPPER2} + \text{GRPrecess} \\ & \neq \text{GRIPPER3} \\ & \neq \text{GRIPPER4} \\ & + \text{HO} \neq \text{TUBE} + \text{SNPBUTTON3} \end{aligned}$$

Therefore, even if the Mitchell rake and the present invention are equivalent in the raking mode, there is still the non-equivalences of Equations F that differentiate them from each other. The following possibilities are open:

Equations G:

$$\begin{array}{lll} \text{RIB} = \text{GRIPPER1} & \text{and} & \text{SWrecess} \neq \text{GRPrecess} \\ \text{RIB} \neq \text{GRIPPER1} & \text{and} & \text{SWrecess} = \text{GRPrecess} \\ \\ \text{RIB} = \text{GRIPPER2} & \text{and} & \text{SWrecess} \neq \text{GRPrecess} \\ \text{RIB} \neq \text{GRIPPER2} & \text{and} & \text{SWrecess} = \text{GRPrecess} \end{array}$$

Because SWrecess cannot be zero(0), meaning useless,

RIB + SWrecess  $\neq$  GRIPPER3

RIB + SWrecess  $\neq$  GRIPPER4

RIB + SWrecess + HO  $\neq$  TUBE + SNPBUTTON3

In all cases, at least one pair of elements is non-equivalent. Add to this the non-equivalent pairs in equations E and that leaves a total of at least two pairs of non-equivalent elements out of a possible three pairs in Equations B - enough to prove that even in the raking mode, at least two of the crucial parts of the connected rake parts/units do not cooperatively function in the same way to achieve the same overall result. What is missing or short in one element is found or augmented in the other element, all to varying degrees between the two inventions.

In short, whether RIB = GRIPPER is true or not, and SWRecess = GRPrecess is true or not, there is always the presence of other unquestioned inequalities that render the present invention different and unique from prior art. The definition of anticipation is not satisfied.

The applicant has earlier argued the non-equivalence of the rib to the gripper and the side wall recess to the gripper recess. If the non-equivalence for both pairs is finally accepted to be true, then all three elements on each side of the equation, or looked in another way, all three elements in Mitchell work cooperatively in definitely different ways from the three elements in the present invention even if the two rakes are used in the same conventional way in the raking mode. Add to that the extra benefit derived from the hand grip of the present invention even in the raking mode and it becomes

definitely clear that the present invention cannot have been anticipated by Mitchell both on an element-by-element comparison basis and on a totality basis.

The right hand side of Equations B above show that there are ten(10) possible connecting and abutment combinations to effect a fully functional picking rake that can be derived from the disclosure of the present invention. Only three(3) of them include a non-detachable connection (NDC). The claims for these three(3) are the only ones allowed so far. The claims for the other seven (7) very functional, very different from Mitchell, very commercially attractive and very patentable versions of the picking rake are still pending simply because they happen to be detachable.

Eight(8) of the ten(10) have something in common. A resilient member in the form of GRIPPERS 1, 2, 3, or 4 - all of which have been argued earlier to be non-equivalent to Michell's RIB. Taking the resilient member as element #1, the following is added:

- 2)hand grip = Mitchell's handhold or semi-cylindrical handle,
- 3)side-by-side handle arrangement on the same first infinite plane as the rake heads = semi-cylindrical handle above the first handle,
- 4)abutment derived from another gripper or underlap, non-detachable connecting means, or snap button = Mitchell's hook and opening or recess or flange.

Please note that all connection means inherently provide some abutment. Therefore, elements #1 and #4 can both be recited as "connecting means... wherein said connecting means comprise a resilient member...". The word **comprise** covers the resilient member and all the other limitations associated with it plus if

necessary other connecting means not specified but described in the disclosure. These could be the non-detachable connecting means and/or another resilient member.

But not all abutment means described in the present invention are connection means. Therefore, a dependent claim 89 is also submitted to cover fully functional picking rake versions that use at least a resilient member and an additional abutment means that is not also a connection means. Overlapping rake heads and recesses are some of the abutment means that are not also connecting means described in the disclosure of the present invention.

The product resulting from the inclusion of the four(4) elements above is eight(8) versions of a fully functional, novel, unique, non-equivalent to any in prior art, picking rake. Offhand, these may appear to be too much to be covered in a single patent. Fortunately, this is not so. This is because they can all be covered by one independent claim having all the four(4) elements above. Two(2) of these eight (8) versions have the non-detachable connection included in the phrase "wherein said connecting means comprise" or as an abutment means in another claim. Additional grippers covering three(3) more versions can also be included in the phrase "...comprise" or as abutment means in another claim. One(1) version has the underlap for additional abutment while two(2) more versions has the snap button for additional abutment. Additional grippers, underlap, and snap buttons on these versions is just as unique and as non-equivalent to any in Mitchell as the non-detachable connection.

The one independent claim that sufficiently covers all eight(8) versions is submitted as claim 88 for examination and allowance. Claim 89 includes abutment means that are not considered connecting means as well - like the underlap, the recess, and the snap button.

It might be advantageous for the applicant to compare claim 88 with an already allowed claim 57. Claim 57 has the following differentiating factors:

- a) grip handles on a plane substantially parallel to the plane of the rake head prongs,
- b) first connecting means on portions of the grip handles for holding the right and left rake units in a side-by-side relationship along their inner sides,
- c) second connecting means through an aperture on the upper end of one of the first and second rake handles,
- d) rake handles that are removably connected to the upper ends of their respective rake heads, and
- e) grip handles are located at a midsection of at least one of the rake handles.

In claim 88 the first and second connecting means of claim 57 are replaced with "connecting means...wherein said connecting means comprise a resilient member having..." (lines 38-50) specifying a broader location, narrower structure, and narrower attachment/detachment operations of the resilient member - enough to substantially differentiate from Mitchell's rib. The first connecting means of claim 57 is the resilient member of claim 88. The second connecting means of claim 57 is implied in the word "comprise" of claim 88 which may include in addition to the resilient member others described in the disclosure - a non-detachable connecting means or another resilient member for example.

The narrower description of the resilient member regarding its structure and operation is compensated by a broadened location of the resilient member. Instead of it being on one of the portions of the grip handles, it is recited as being on one of the rake handles, its opening capable of receiving the outer

5

dimensions of an adjacent section of the other rake handle. This description fits the two orientations of the gripper as shown in Figs. F & G. The strategic orientation alone of the resilient member even anywhere along the rake handle was shown earlier to produce substantially different results, clearly non-equivalent to Mitchell's rib.

The handles being removably connected to the rake head is not adapted for reasons explained earlier in this paper.

The hand grip location is recited more broadly. A broadened location still differentiates and is justified because it does not include being on the rake head like the Mitchell handhold. It is limited to the entire span of the rake handle above the rake head (lines 24-29) not just the midsection. As explained in the RCE, a rake having an extra tall head for an average-sized user or an average-sized rake for an extra small user will not necessarily have its hand grip in the midsection of the rake handle. Furthermore, the hand grip was shown to be non-equivalent to the Mitchell handhold not just because of location but also because of function and result.

Therefore, if claims to a picking rake having the non-detachable connection as abutment means (second connecting means in claim 57) and the three(3) other differentiating elements - first connection means (resilient member), hand grip, and side-by-side handle arrangement, are allowable, why not also allow a claim that has all the same elements but including an abutment means other than the non-detachable kind? Some of these elements may be recited more broadly than in claim 57 but they still are able to maintain their non-equivalence to their Mitchell counterpart.

The applicant has presented several arguments supporting the non-equivalence to prior art of both the detachable and non-detachable versions of the present invention. **Since all these**

arguments are presented to the Examiner after the writing and allowance of claim 57 and its dependent claims, it is possible that the Examiner is now more convinced about the non-equivalence of some if not all of the elements in question and is now willing to allow a claim broader than claim 57. Claim 88 and all its dependent claims should be allowed.

#### **Summary and Conclusion:**

Prior art is replete with patents covering non-detachable dual rake heads. Some of them (Cox, Pat.#3,688,484), and (Dirksen, #4,991,386), and (Bricker, #5,564,267) basically differ only by the structure of their connecting means and shape of the rake heads. The raking, clam-shell opening of the rake heads, and picking operations are essentially the same. The connecting means might be structurally different, but applying to them the same limits set by the Examiner on the present invention, they can be argued to be even more "anticipated" by the earliest patent because they open up the rake heads the same way and give the same results. Bricker (1996, Pat. #5,564,267) also fit into this category except that its connecting means is detachable.

What makes the detached rake parts of Bricker and Mitchell(2002) different? What precludes the consumer from using these detached parts in the exact same way to pick debris? None. Both of them simply have elongated members for handles. None of them have hand grips. Once the parts are detached, the consumer will use them the same way given the same handles. Why then was Mitchell granted a separate patent for a detachable rake? After all, are not the raking and picking operations the same? Connecting means, side-by-side rake heads, and attaching and detaching operations might be some of the reasons.

Why then should not there be other patents covering completely detachable dual rake heads as well - especially those that differ not only in their connecting means but also in their handle arrangements, raking, attaching, detaching, and picking operations? A side-by-side rake head arrangement and detachability are just two of the many elements that could be considered in determining the patentability of an invention. It is possible that others will come up with entirely different ideas for completely detachable side-by-side dual-headed rakes. Does that mean that they can never get their ideas protected/patented simply because their rake heads happen to be detachable like Mitchell's and that they are arranged side-by-side even if there are significant differences somewhere? In other words, does this mean that no one can improve on Mitchell?

Again, complete detachability and side-by-side rake head arrangement are just two of the many characteristics of a type of picking rake. The entire implement embodies also a method of operation - detaching, picking, attaching and raking operations. These can be significantly different and unobvious between inventions even if they both have completely detachable rake parts and/or side by side rake heads. That is why there is such a thing as method claims intended to cover only unique operational elements. They are not limited by structure. In addition, if the structures that effect these operational differences are also different, then patentability is more so justified. Such is the case between the present invention and prior art. The operations and the structure of the elements that effect these operations significantly differ between the two inventions.

**It is true that the gripper of the present invention is resilient like Mitchell's rib. But it is not used the same way and does not produce the same results. The gripper is not only a**

connecting means; it also provides rotational and weight abutment. The rib is simply a connecting means. The rib cannot house an aperture to house the positioning head of a snap button. The gripper and the rib cannot be equivalent.

**It is true that the hand grip is transversely oriented like Mitchell's handhold. But** it is not used the same way and does not produce the same results. Two hand grips are each located on a handle within reach of the user and used to align, to attach and to detach, to hold on while raking and picking; all these while the user remains upright. The handhold on only one of the rake heads is simply used for picking while the user is in a stooped position. The hand grip and the handhold cannot be equivalent.

**It is true that they both have recesses. But** the recess of the present invention is on the rake handle, acts directly on the gripper itself, and provides a forward-backward or up-down abutment. The recess also cooperates with the gripper to enhance rotational abutment. Mitchell's recess is part of the rake head, does not act directly on the rib, and provides a sideways abutment. The two recesses cannot be equivalent.

**It is true that the rake heads are arranged side-by-side for both. But** they are not attached and detached the same way. The Mitchell rake heads are attached and detached by a counter-clockwise and clockwise rotation respectively. The rake heads of the present invention are attached by just slapping the overlap of one head over the underlap of the other. To detach, the overlap is simply flipped away from the underlap. They both also perform different secondary functions in the overall spirit of the picking rake as discussed in the next paragraph. The two dual-rake heads cannot be equivalent.

**It is true that the underlap of the rake head provides weight abutment like Mitchell's flange. But** it serves different

secondary functions. The underlap of the present invention extends all the way down to include tines. It shields the other rake unit from raking forces, increases the picking volume, and provides half the symmetry that contributes to the overall aesthetic value of the implement even when the parts are separated. An unexpected sideways abutment inherent from the intermeshing of the tines in the overlapping sections is also realized. The flange houses the recess and a connecting means. It contributes no picking volume nor aesthetic value. It is also impossible to extend the flange to include tines because it will interfere with the hook and opening connection means. The underlap and the flange cannot be equivalent.

**It is true that they both have abutment means. All dual-headed rakes have them. But** the abutment is provided by different elements. The gripper, underlap, non-detachable connection, or one tube can each provide the weight abutment; the gripper provides the rotational abutment for the present invention. For Mitchell, the first rake handle and the flange provide the weight abutment; the hook and opening provides the rotational abutment. The abutment means cannot be equivalent for the two inventions.

**It is true that the lower ends of the handles are coupled to the upper ends of the rake heads for both inventions. The handles can therefore be removably or integrally attached to the rake heads. But** the decision to attach removably or integrally is a business decision, not one that should tip the scales between patentability and "being anticipated". Per 35 U.S.C. 103 par.(a) - "...Patentability shall not be negated by the manner in which an invention was made." **The method of attachment of the handle to the rake head is irrelevant. The functions of the rake handles and the rake heads remain the same regardless of the type of attachment used.**

**It is true that their rake handles are on the first infinite plane. But** the rake handles that the present invention is claiming are arranged side-by-side on that first infinite plane. Mitchell's short handle is arranged to be above or overlapping the first handle, their longitudinal axis coinciding. The position of the rake handles cannot be equivalent. The side-by-side handle arrangement produces significantly different results over an overlapping arrangement.

**It is true that the present invention has arm leverages and extensions. But** Mitchell does not have them. No other prior art in the field of side-by-side, completely detachable or non-detachable picking rakes has them. They cannot therefore be anticipated by Mitchell or by other prior art in the field.

**It is true that they are both used in the same conventional way for raking. But** the three elements that comprise the connection between the two rake parts/units work cooperatively in very different ways (as shown in the logical expression/equation above). This is true for the detachable and non-detachable versions of the picking rake.

**It is true that they are both completely detachable. But** the connecting means and the detaching and attaching operations are different. The gripper is not equivalent to the rib; the tube and snap button is nowhere described or implied in Mitchell. The sideways attaching and detaching motions imbibed in the present invention are directed toward the very direction that is completely abutted in Mitchell. They cannot be equivalent nor anticipating.

**The above comparisons are presented on an element-by-element basis. The consistent non-equivalence of these important elements just proves that the present invention containing these elements as presented in claim 88 is as a whole also unique,**

**unobvious and cannot have been anticipated by Mitchell, thus patentable.**

Mitchell's invention may be the first side-by-side dual-headed rake but it does not provide the answer to everyone's preferences. Some people would prefer to minimize stooping while picking debris. Some would prefer the picking operation to be like second nature so that it would require less mental effort/concentration to get done. Certain work conditions may necessitate short raking and picking and raking and picking cycles to get the job done. This is particularly necessary when the wind is acting on the raked leaves and therefore picking and disposal have to be done as soon as the leaves are raked even if the leaf pile is small. Or towards the end of the raking and picking work where the leftover leaves are scant and scattered. Some would surely prefer a picking rake that allows the user to do this without continually shifting between upright and stooped positions. Some would prefer the looks of a dual-headed picking rake with symmetrical rake heads because each of the detached parts would look complete.

In the present invention, all the structures necessary to make the picking rake function as a rake and as a picker-upper are within the grasp and sight of an upright user. Raking and picking operations are connected in such a way that they become almost seamless, effortless, and second nature. It is almost as though the picking rake is part of the user's body. Mitchell's rake cannot offer this benefit to its users.

The applicant cannot go on indefinitely arguing about the patentability question, whether this element is equivalent to or anticipated by this element and so on and so forth. However, there is one more avenue to explore: a comparison of results at the final consumer level. Will the consumer be benefited by the present invention in the same exact way as by Mitchell? Will the

present invention fulfill a long-felt, long-existing unsolved consumer need that is already fulfilled by Mitchell? The applicant firmly believes that the answer to both questions is no. The benefits offered by the present invention exceed those of Mitchell. In addition to providing accessibility of a picking tool at all times while raking, the present invention has also offered a solution to the "stooping" postural problem that is not even described or implied in Mitchell.

It will be unfortunate if the allowance of another completely detachable one like the present invention that addresses Mitchell's shortcomings is denied. That is tantamount to denying the public the benefits of having options to a different if not better product. After all, prior art has offered the public several options on different fixedly connected dual-headed picking garden tools.

Therefore, based on the arguments presented above and those in the RCE (those should not be considered moot), it is submitted that in addition to the already allowed claims 57-61, claims 105 and 78-79, and amended/new claims 81-104 also constitute patentable subject matter.

The applicant submits that there are several added independent claims for examination. This is just the result of an effort to present different approaches in claim writing particularly: a) for claims 88-98 - to cover claims for the detachably connected picking rake that will successfully differentiate the present invention from prior art references to the satisfaction of the Examiner and hopefully without or with just a minimum amount of claim writing assistance, and b) for claims 81-87 and 99-104, to present several versions of claims incorporating the conditions for allowance set by the Examiner so that a preferred version can be chosen because the applicant is not sure how the Examiner wants it done. Hopefully, all that

would be needed would be the cancellation of the non-preferred versions and allowance of the preferred ones. Substantial rewriting of the claims might be obviated.

If the Examiner is convinced but feels that the present claims are still not technically adequate, the applicant respectfully requests the constructive assistance and suggestions of the Examiner pursuant to MPEP 706.03(d) and MPEP 707.07(j) in order that the applicant can place this application in allowable condition as soon as possible without the need for further proceedings.

Thank you.

Respectfully yours,

  
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Date: April 13, 2004

Inventor's Signature: 